Chapter 13

13. ENVIRONMENTAL PLANNING FOR ANNUAL FACILITY MAINTENANCE

13.1 GENERAL

The purpose of this Chapter is to provide information on applicable regulatory requirements and procedures related to annual facility maintenance at LaRC.

13.2 REQUIREMENTS

Federal and State regulations are issued to ensure conformance to the Clean Water, Clean Air, and Hazardous Wastes Acts. Facility maintenance must be planned carefully so that the requirements of these regulations are consistently met during facility shutdown and startup phases.

Environmental compliance considerations must be a routine part of every maintenance operation. The Technical Project Engineer or Unit Maintenance Manager is responsible for requesting assistance and technical guidance from the Environmental Management Office (EMO).

13.3 RESPONSIBILITIES

13.3.1 General Maintenance Activities

- Identify oil or liquid waste discharges before the startup or shutdown of a unit. The EMO must be notified by personnel performing the startup or shutdown to ensure that the discharges are handled properly.

- Review maintenance plans to ensure that the liquid waste is disposed of in accordance with environmental regulations.

- Notify the EMO of any special procedures, decontamination, and analyses to be sure that the activity will not impact the environment.

13.3.2 Specific Maintenance Activities

- Asbestos Containing Material – Submit written notification to the State and in some cases the EPA detailing the asbestos removal activities. The written notification must be made to the State at least 20 days prior to the commencement of removal activities. The maintenance coordinator shall provide information to the OSFA and the EMO as described in Chapter 8 of this Manual.

- Effluents Management - Contact the EMO at extension 44230 prior to discharging any materials generated from maintenance activities. No discharges shall be made to the environment through the sanitary and storm sewers or open dumping on the ground without approval from the EMO. Chapter 3 discusses the Center's Water Program in detail.

- Used Oil – Conduct a waste oil analysis prior to removal of used oil from equipment to ensure the oil is changed only if it no longer meets specification requirements. Used oil

shall be transferred to an appropriately marked "Used Oil" drum. Chapter 10 discusses oil management in detail.

- Oily Water – Notify the EMO prior to generation of oily water to ensure that the oily water can be disposed of or processed through the oily water separator in a timely manner. The EMO will discuss with the generator options to reduce the oily water generation when necessary.

- Air Pollution Control – Contact the EMO at extension 43500 prior to installing or moving any permitted air sources. See Chapter 4, Air Quality, for more detail.

- Waste Generation – Notify the EMO prior to beginning work if the maintenance activity will generate waste. This will allow the EMO to prepare for proper disposal of the waste (e.g., sampling, waste characterization).

- Waste Management – Plan ahead of time for proper management of any wastes generated during the maintenance activity. All wastes must be accumulated and disposed of in accordance with the procedures described in Chapter 5.

- Accumulate and dispose of all wastes according to the waste management and disposal procedures described in Chapter 5 of this manual.

Chapter 14

14. OIL AND HAZARDOUS MATERIAL SPILL CONTROL

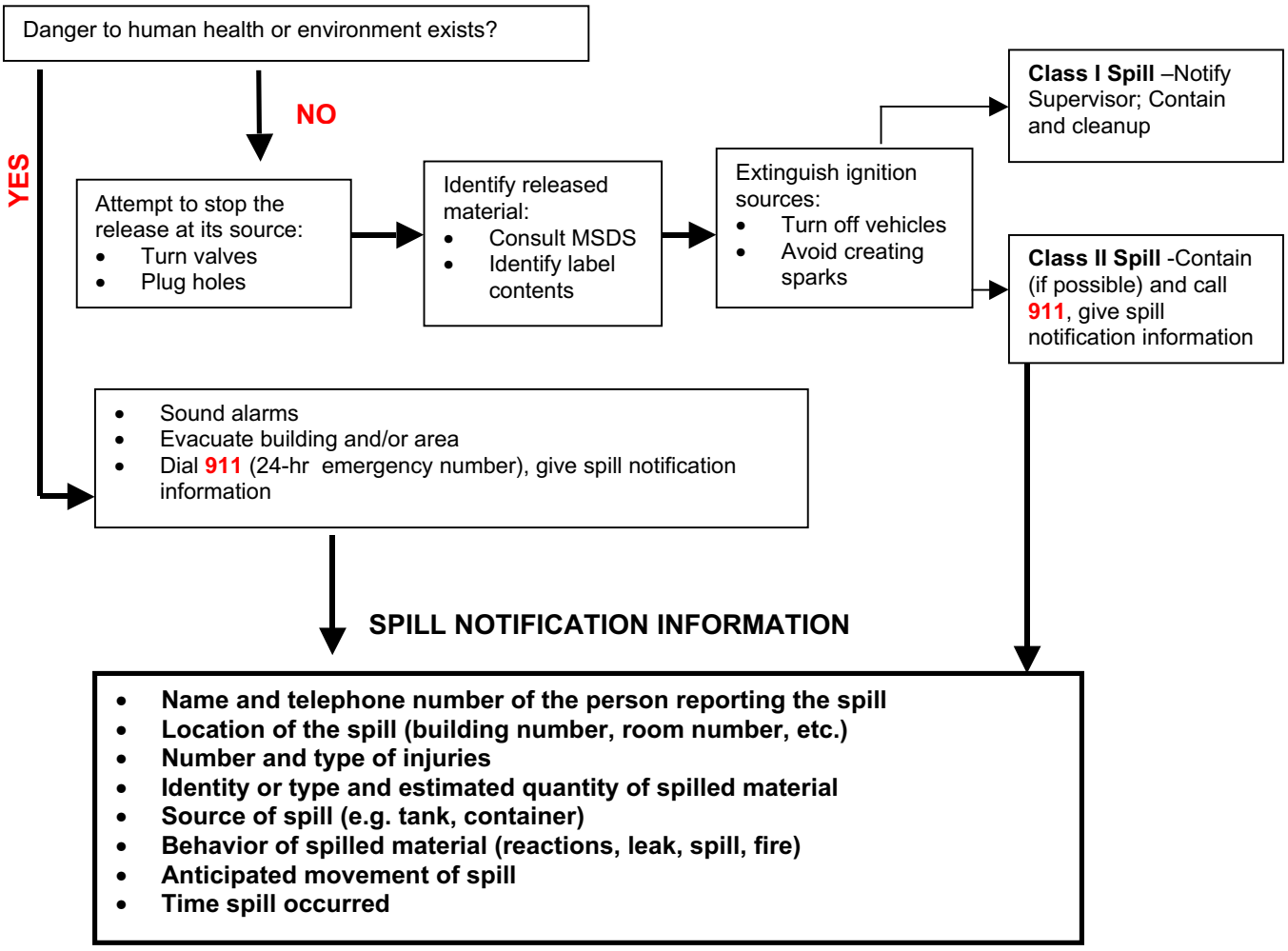
14.1 GENERAL

Implementing engineering and administrative controls in order to minimize spill potential is an important goal for the Center. The Center's Hazardous Materials Spill Contingency Plan, and its Oil Spill Prevention Control and Countermeasure (SPCC) Plan have been combined into one document called the NASA LaRC Integrated Spill Contingency Plan (ISCP). The Plan is available by contacting the EMO at extension 43500.

This Chapter contains the spill response information from the ISCP that is most critical for Center employees and on-site contractors to follow in the event of small and large spills of oil and/or hazardous materials. See Section 14.3, Spill Characterization, for clarification of small and large.

14.2 SPILL RESPONSE

Immediate action is necessary in the event of an oil or hazardous material spill of any size. Any LaRC personnel or on-site contractors that discover a spill should use the following decision tree:



14.3 SPILL CHARACTERIZATION

- Class I Spill

  A Class I spill is relatively small in volume and presents low hazard potential to personnel or the environment. It can be contained and cleaned up with only minor difficulty by the user/custodian. Outside support is not necessary.

- Class II Spill

  A Class II spill involves a large volume of material and may present significant hazard to personnel or the environment. Any spill reportable under EPA Regulations, 40 CFR302, 355, or 372 shall be considered a Class II spill. Other than initial containment, area control and notifications, full-scale containment and clean up of a Class II spill shall be conducted in accordance with the NASA LaRC Integrated Spill Contingency Plan.

  Operations in which a Class II spill may occur, shall be conducted under a Potentially Hazardous Materials Safety Permit as provided for under LAPG 1710.12, "Potentially Hazardous Materials." The Safety Permit shall identify spill potential and specify appropriate response.

14.4 RESPONSIBILITIES

Most spills are caused by equipment failure or operational errors. Spills can be minimized by implementing practicable and good engineering practices such as employee training, appropriate personnel selection, regular equipment maintenance and inspections. Should a spill occur, the following procedures and responsibilities apply:

14.4.1 User/Custodian

The primary responsibility for spill prevention lies with the user/custodian. Actions taken in the event of a spill shall be preplanned and incorporated into use procedures. The user/custodian shall:

- Ensure that all drain lines are plugged that are near indoor oil or hazardous materials storage areas. This includes Hazardous Waste Satellite Accumulation Areas (SAA).

- Use spill containment pallets for any oil or hazardous materials stored outside of the facility.

- Post a Spill Plan at each outside site that contains 220 gallons (4 x 55-gallon drums) or more of oil and/or hazardous materials. Examples of a Spill Plan can be obtained at: http://osemant1.larc.nasa.gov/cmts/hazwaste/spill/spill_response.htm

- In the event of a spill, follow the decision tree shown in Section 14.2.

- Properly dispose of spill debris (See Chapter 5, Waste Management).

14.4.2 Facility Environmental Coordinators (FEC's)

- Oversee proper management of each oil and/or hazardous materials storage site at his/her facility.

- Ensure that facility personnel are aware of the oil and/or hazardous materials storage areas at his/her facility and that appropriate personnel are familiar with spill control and response procedures.

14.4.3 Environmental Management Office (EMO)

- Notify regulatory agencies of spills as required by the Federal spill response reporting requirements (See Chapter 15, Emergency Planning and Community Right to Know).

- Maintain complete documentation for all Class II spills and for Class I spills of unusual nature.

- Conduct investigations into the causes of the incident and submit recommendations to prevent reoccurrence.

- Coordinate disposal of hazardous waste generated by spills.

- Participate in spill events as specified in the NASA LaRC Integrated Spill Contingency Plan.

Chapter 15

15. EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT

15.1 GENERAL

The Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted in October 1986 in response to a growing concern about the effect of chemical releases on communities. EPCRA encourages and supports emergency planning efforts at the state and local level, and provides citizens and local governments with information concerning potential chemical hazards present in their communities. LaRC must comply with all sections of EPCRA as stated by Executive Order 13148.

15.2 REQUIREMENTS

15.2.1 Emergency Planning Notification

EPCRA Sections 301-303 require that facility owners or operators notify the State Emergency Response Committee (SERC) if their facility qualifies as an Emergency Planning Facility. The criteria for qualification is any facility that has on site, at any given time, a quantity of an Extremely Hazardous Substance (EHS) that is equal to or greater that its threshold planning quantity (TPQ). The facility must notify the SERC within 60 days of first meeting this qualification.

The list of EHS's and TPQ information can be obtained at the following website:

http://www.epa.gov/ceppo/ds-epds.htm#title3

An Emergency Planning Facility must designate a Facility Emergency Coordinator and provide the name of that individual to the Local Emergency Planning Committee (LEPC) or the SERC if there is no established LEPC.

15.2.2 Spill Reporting

EPCRA Section 304 requires that the owner or operator of a facility must notify the appropriate authorities in the case of an accidental release of an EHS or CERCLA-defined hazardous substance equal to or greater than its reportable quantity (RQ). The consolidated chemical list that includes chemicals subject to reporting requirements under EPCRA is available at the following website:

http://www.epa.gov/ceppo/ds-epds.htm#title3

This notification must be made immediately by the owner or designated representative. See Chapter 14 for procedure information on spills and reporting.

As soon as possible after the release, EPCRA requires a written follow-up report for any release that requires immediate notification to the SERC and the LEPC.

15.2.3 Inventory Reporting

Facilities that have hazardous chemicals are required by the Occupational Safety and Health Act (OSHA) to maintain Material Safety Data Sheets (MSDSs) for the hazardous chemicals. EPCRA Sections 311-312 require the owner or operator of these facilities to:

- Submit MSDSs or a list of MSDS chemicals within 90 days from the day the facility first has on-hand the threshold quantities, and

- Submit annually (by March 1) a hazardous chemical inventory form (Tier II report) to the SERC, LEPC, and the local Fire Department that has jurisdiction over the facility.

15.2.4 Toxic Release Inventory

EPCRA Section 313 also requires a report of emissions of toxic chemicals from facilities that manufacture, process, import or otherwise use a listed toxic chemical in excess of specific threshold quantities. A Form R for all chemicals exceeding threshold quantities must be submitted by July 1 to the appropriate Federal (the EPCRA Reporting Center), State (VA DEQ), and local (HRSD) organizations.

15.2.5 Priority Chemical Reduction

Executive Order 13148 requires Federal agencies to reduce their use of "priority" listed EPCRA Section 313 toxic chemicals and other regulated hazardous substances and pollutants for identified applications by 50 percent by December 31, 2006. A draft list of these chemicals was compiled based on their significant harm to human health and/or the environment, and the availability of known substitutes for their designated use applications. Out of approximately 15 chemicals, the Center uses only three of the "priority" chemicals in significant amounts: lead, mercury and silver. The Center will focus on reducing the use of these chemicals where feasible. A complete list of draft chemicals can be found in the CY 2002 Update Pollution Prevention Program Plan.

15.3 RESPONSIBILITIES

15.3.1 Facility Safety Heads (FSH's)

- Ensure that facility personnel who purchase hazardous chemicals follow the procedures outlined in LAPG 1710.12 and maintain quantities at the lowest level consistent with needs.

- Ensure that MSDS's are obtained for any hazardous material stored or used at their facility.

15.3.2 Environmental Management Office (EMO)

- Notify the SERC within 60 days of meeting the criteria for an Emergency Planning Facility.

- Document and report spills of EPCRA regulated materials as required to the SERC, LEPC, and the National Response Center.

- Prepare the annual Tier II Inventory report for LaRC and submit to the SERC, LEPC, and Fire Department by March 1, annually.

- Prepare the toxic chemical emissions report for LaRC based on inventories submitted by FECs. The report shall be submitted annually by July 1 to the appropriate Federal, State and local organizations.

- Provide training about EPCRA to FEC's, FSH's and facility personnel.

15.3.3 Facility Environmental Coordinators (FEC's)

- Maintain a hazardous chemicals inventory for their areas of responsibility. The inventory shall be submitted and updated through the Chemical Material Tracking System (CMTS) (see Chapter 19). FEC's shall maintain quantities at the lowest level consistent with needs.

- Submit MSDSs not already in the CMTS library to EMO within 5 working days of receipt of item.

- Report spills to the EMO (See Chapter 14).

Chapter 16

16. UNDERGROUND STORAGE TANKS

16.1 GENERAL

Throughout the U.S., leaking Underground Storage Tanks (UST's) have become an increasing source of groundwater contamination. In addition to creating environmental and safety problems, leaks from UST's are costly to repair. For these reasons, proper design and installation of tanks is important to conserve resources and prevent future damage to the environment.

LaRC currently has several active UST's that hold materials such as gasoline, diesel, and fuel oil. See Figures 16-1 and 16-2 for LaRC UST location, size and material stored. As an owner and operator of UST's, LaRC must comply with all Federal and State regulations to ensure protection of health and the environment.

16.2 REQUIREMENTS

16.2.1 EPA Regulations

As a result of the Hazardous and Solid Waste Amendments of 1984, the EPA established a National Regulatory Program for the control of new and existing UST's and their associated piping that are used to store liquid petroleum products or other chemicals defined as "Hazardous Substances." In 1988, the EPA issued new performance standards for UST's and associated piping. The requirements were phased in over a ten-year period, with December of 1998 being the deadline for all tanks to be in compliance.

16.2.2 State Regulations

The EPA granted approval of Virginia's Underground Storage Tank Program in October of 1998. The Virginia Department of Environmental Quality (VDEQ) is the implementing agency for UST activities in the State. Many of Virginia's requirements exceed the stringency or scope of the Federal regulations. A list of the differences can be found in Chapter 11 of LaRC's Environmental Resource Document, available through the EMO.

16.2.3 LaRC Requirements

Systems must meet the following design and maintenance specifications:

- Tanks must retain structural integrity for their operating life.
- Tanks must be installed and repaired using nationally recognized standards and industry codes.
- Owners and operators must follow proper tank filling procedure. New and upgraded UST systems must use devices that prevent overfills and control or contain spills.
- Storage tanks must be closed by either removing them from the ground or leaving them in place after being drained, cleaned and filled with inert material.
- Outside access must be closed off and a site check made to ensure there has been no contamination from spills or leaks.

- Release detection must be phased in within a five-year period based on tank age.
- Corrosion protection and spill/overfill prevention must also be provided for all UST systems installed before December 1998.
- Any suspected releases must be investigated by tank owners/operators. Confirmed leaks and spills must be reported within 24 hours
- All UST systems must meet the current regulatory requirements.
- New tanks must be registered with the State and closed tanks must have closure certification from VDEQ.

16.3 RESPONSIBILITIES

16.3.1 Tank Operators

- In the event of a spill or leak, immediately notify the EMO at extension 43320 and ensure that corrective actions are initiated.
- Perform periodic inspection of each tank and maintain inspections on file.
- Monitor leak detection devices (where installed) and take corrective action if leakage is indicated.
- Ensure that adequate maintenance on each tank is performed to ensure satisfactory performance.
- Monitor filling of tanks to prevent spills and overflows.

16.3.2 Environmental Management Office (EMO)

- Report all leaks or releases to appropriate state and/or federal agencies.
- Maintain and update, when necessary, UST notification forms and submit to the State.
- Review design of UST systems to ensure compliance with the latest regulatory requirements.

16.3.3 Facility and Equipment Support Services (FESS)

- Review all proposed UST installations to determine necessity.
- Design or oversee the design of all UST systems to ensure compliance with the latest regulatory requirements.

16.3.4 NASA LaRC Employees

All LaRC employees are responsible for reporting any unusual visible releases from UST filling operations and/or fill ports to the EMO at extension 43320.

Continue to Next Section